REMARKS

The present amendment is submitted in response to the Office Action dated June 4, 2001, which set a three-month period for response, making this amendment due by September 4, 2001.

Claims 16-32 are pending in this application.

In the Office Action, the 35 U.S.C. 103 rejections of claims 16-18, 20, 22-27, and 29-1 over U.S. Patent No. 5,882,786 to Nassau in view of U.S. Patent No. 2,521,846 to Gregory was repeated for the reasons previously cited in paper #8. The 35 U.S.C. 103 rejections of claims 19, 21, and 28 over Nassau in view of Gregory and in further view of U.S. Patent No. 5,431,028 to Lampert was repeated for reasons previously cited in paper #8. The drawings were objected to under 37 CFR 1.83(a) as not showing every feature of the invention as claimed, specifically, the plate-shaped support. Claims 16-31 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 16, 20, 22-24, 27, 29, and 30 were rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 229,328 to Meyer. Claims 17, 19, and 21 were rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer. Claims 18, 25, 26, and 31 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Meyer.

Turning first to the objection to the drawings, the Applicants have amended Figures 1 and 2 to illustrate the plate-shaped support 1 or 2, respectively, as claimed. Since the support is described in detail in the specification (see, for

example, pages 4-5), the Applicants respectfully submit that this change to the figures does not constitute new matter, but only more clearly illustrates a feature already disclosed.

Turning next to the rejection of the claims as indefinite, specifically, with regard to claim 16, the Applicants respectfully disagree that the specification, drawings and claim language do not specify whether the plate-shaped support is part of the final gemstone product. The Applicants direct the Examiner's attention to the specification on page 3, lines 5-10, where it is provided that the inventive gemstone is "comprised of a preferably plate-shaped support or substrate having one surface that is provided with at least one pyramid-shaped depression and which supports a precious stone layer this is produced by vapor phase deposition..." Thus, the claimed decorative qualities of the gemstone are achieved by the combination of the produced geometry on the wafer and the geometry of the precious stone layer applied thereon.

In order to more clearly claim this feature, claim 16 has been amended to provide that the vapor deposit layer is applied to the support in a selected orientation, whereby this orientation upon the support provides the desired light-reflecting qualities.

Regarding the rejection of claim 18 as indefinite for use of the phrase "plate-shaped support has (100) or (111) orientation", the Applicants respectfully disagree that this language renders claim 18 vague. As a practitioner skilled in the art would understand upon reading the present application, the orientations 100 or 111 refer to

the "Millerschen Indices" which describe the various crystal geometries or crystal morphologies of crystal shapes. Therefore, the Applicants respectfully submit that claim 18 is not indefinite, since it includes terminology which is a term of art to anyone educated and skilled in the relevant technology.

Claim 20 has also been amended in an effort to overcome the Examiner's rejection under Section 112. Specifically, amended claim 20 provides that the plate-shaped support comprises a metal, the metal having a sufficient hardness to support deposit of the precious stone layer upon the plate-shaped support.

Regarding the rejection of claim 27 as indefinite for use of the term "grain boundaries", as previously argued by Applicants, and as provided on pages 4-6 of the specification, the term "grain boundaries" does indeed refer to the crystal orientation of the precious stone layer. When the vapor deposit layer, i.e., the precious stone layer, is applied to the support, the crystal orientation or grain boundaries of the material to be applied must be considered in order to achieve the maximum brilliance in the final gemstone product. Thus, the crystal orientation (also called the grain boundaries) are arranged in a selected orientation relative to the support in order to provide the best physical properties for the final product.

In light of the above amendments and comments, the Applicants respectfully request withdrawal of the rejection of claims 16-31 as indefinite.

Looking now at the substantive rejection of the claims, the Applicants respectfully disagree with the continued rejection of the claims as obvious over the cited combinations of the Nassau, Gregory and Lampert references. The Applicants

also disagree with the newly cited reference to Meyer renders the present invention obvious.

However, in order to more clearly distinguish the present invention from these references, the Applicants have amended claim 16 to provide that a vapor-phase deposit layer is applied to the plate-shaped support. In addition, amended claim 16 now provides that the plate-shaped support has a plurality of pyramid-shaped depressions, rather than "at least one". Likewise, amended claim 16 provides further that the underside of the vapor-phase deposit layer has a plurality of pyramid-shaped projections which correspondingly fit into one of the pyramid-shaped depressions. (The dependent claims have been amended accordingly to use corresponding terminology).

In addition, the Applicants have added new claim 32, a method claim directed to the production of the gemstone, and which includes similar limitations as claim 16, but in method format.

The Applicants respectfully submit that none of the cited references show the combination of features recited in claim 16. Specifically, the new reference to Meyer does not provide a vapor-phase deposit layer applied to a plate-shaped support. Meyer also fails to show or suggest a support and vapor deposit layer, each having a plurality of interfitting, pyramid-shaped depressions and projections, respectively. Rather, Meyer shows only a single, triangular-shaped projection.

Likewise, none of the previously cited references show or suggest a vapor-deposit layer applied to a plate shaped support having a plurality of pyramid-shaped

depressions, where the vapor-deposit layer has pyramid shaped projections that fit into the depressions. Again, none of the references suggest orientation the vapor-deposit layer when applied onto the support to impart decorative, light reflecting qualities.

For these reasons, the Applicants respectfully submit that claims 16-31, as well as new method claim 32, are not obvious over the cited references, whether viewed singly or in the suggested combinations. The Applicants therefore request withdrawal of the rejections under 103 and reconsideration of the claims as herein amended.

In light of the foregoing amendment and arguments in support of patentability, the Applicants respectfully request that this application now stands in condition for allowance. Action to this end is courteously solicited. Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,

Robert W. Becker, Reg. No. 26,255
for applicants

ROBERT W. BECKER & ASSOCIATES
11896 N. Highway 14, Suite B
Tijeras, NM 87059

Telephone: (505) 286-3511
Facsimile: (505) 286-3524

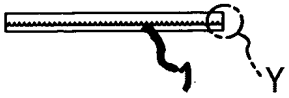


FIG.1

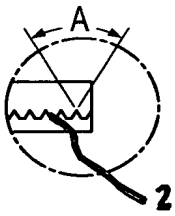


FIG.2

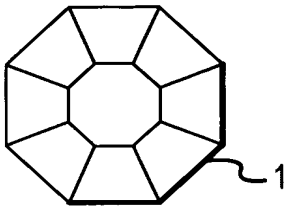


FIG.3

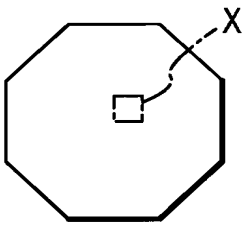


FIG.4

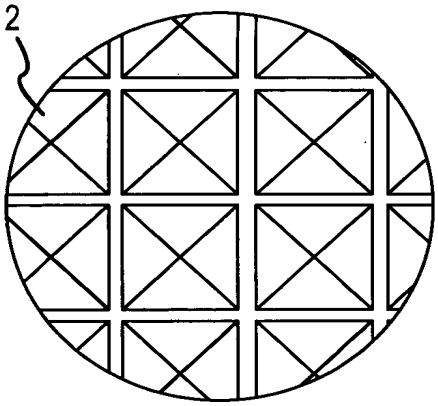


FIG.5

OIPE JC11 SEP 10 2001 PATENT & TRADEMARK OFFICE

RECEIVED SEP 13 2001 TC 1700

V rsions with Markings to Show Changes Made

16. (Twice amended) Gemstone comprising:

a plate-shaped support having a surface with [at least one] a plurality of pyramid-shaped depressions, each said [at least one] pyramid-shaped depression having a pyramid angle formed between adjoining faces of said at least one pyramid-shaped depression; and

a [precious stone layer (1) produced by] vapor phase deposit layer [deposition] comprising a precious stone layer applied on said plate-shaped support [for imparting decorative, light-reflective qualities to said gemstone] in a selected orientation, said precious gemstone layer [(1)] having an upper surface facing away from said plate-shaped support and an underside, said underside having [at least one] a plurality of pyramid-shaped projections arranged to correspondingly fit a respective ones of said [at least one] pyramid-shaped depressions, whereby said orientation of said vapor phase deposit layer upon said plate-shaped support imparts decorative, light-reflective qualities to said gemstone.

20. (Twice amended) Gemstone according to claim 16, wherein said plate-shaped support is comprised of a metal, said metal having a hardness sufficient to [coat] support [said plate-shaped support with] said precious stone layer upon said plate-shaped support.

22. (Amended) Gemstone according to claim 16, wherein said [at least one] pyramid-shaped depressions [is] are produced mechanically.

23. (Amended) Gemstone according to claim 22, wherein said [at least

one] pyramid-shaped depressions [is] are produced by cutting or stamping.

24. (Amended) Gemstone according to claim 16, wherein said [at least one] pyramid-shaped depressions [is] are produced by etching.

26. (Amended) Gemstone according to claim 16, wherein each said pyramid angle of said [at least one] pyramid-shaped depressions includes a pyramid angle measuring approximately 109°.

28. (Amended) Gemstone according to claim 16, wherein each of said [at least one] pyramid-shaped depressions [have] has a mirror surface.